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Subpart A—General

§ 74.1 Purpose.

The regulations in this part set forth the requirements for approval of coal mine dust sampling devices for determining the concentrations of respirable dust in coal mine atmospheres; procedures for applying for such approval; test procedures; and labeling.

§ 74.2 Definitions.

(a) *Accuracy*: the ability of a continuous personal dust monitor (CPDM) to determine the “true” concentration of the environment sampled. Accuracy describes the closeness of a typical measurement to the quantity measured, although it is defined and expressed in terms of the relative discrepancy of a typical measurement from the quantity measured. The accuracy of a CPDM is the theoretical maximum error of measurement, expressed as the proportion or percentage of the

amount being measured, without regard for the direction of the error, which is achieved with a 0.95 probability by the method.

(b) *Bias*: the uncorrectable relative discrepancy between the mean of the distribution of measurements from a CPDM and the true concentration being measured.

(c) *Coal mine dust personal sampler unit (CMDPSU)*: a personal device for measuring concentrations of respirable dust in coal mine atmospheres that meets the requirements specified under Subpart B of this part.

(d) *Continuous personal dust monitor (CPDM)*: a sampling device for continuously measuring concentrations of respirable dust in coal mine atmospheres that reports within-shift and end-of shift measurements of dust concentrations immediately upon the completion of the period of exposure that was monitored and that meets the requirements specified under Subpart C of this part.

(e) *ISO*: the International Organization for Standardization, an international standard-setting organization composed of representatives from various national standards-setting organizations. ISO produces industrial and commercial voluntary consensus standards used worldwide.

(f) *Precision*: the relative variability of measurements from a homogeneous atmosphere about the mean of the population of measurements, divided by the mean at a given concentration. It reflects the ability of a CPDM to replicate measurement results.

Subpart B—Approval Requirements for Coal Mine Dust Personal Sampler Unit

§ 74.3 Sampler unit.

A CMDPSU shall consist of:

- (a) A pump unit,
- (b) A sampling head assembly, and
- (c) If rechargeable batteries are used in the pump unit, a battery charger.

§ 74.4 Specifications of sampler unit.

(a) *Pump unit*: (1) *Dimensions*. The overall dimensions of the pump unit, hose connections, and valve or switch